

MATERIAL SEPARATION PLAN SEMASS RESOURCE RECOVERY FACILITY (6-month addendum/bridge document)

INTRODUCTION:

This document is a 6-month addendum to the existing Material Separation Plan (MSP) for the SEMASS Resource Recovery Facility (SEMASS Facility). The existing MSP covers the period from January 2001 through December 2001. This addendum document covers the period from January 2002 through June 2002, and also presents an adjustment to one of the activities listed in the existing MSP document for the fourth quarter of 2001.

The SEMASS Partnership owns and operates the SEMASS Facility in Rochester, Massachusetts. SEMASS receives and processes approximately 1,000,000 tons of municipal solid waste per year. It also provides over fifty long-term contract customers, primarily located in southeastern Massachusetts, Cape Cod and the Boston vicinity with waste disposal services.

The approximately 1,000,000 tons of municipal solid waste received per year by the SEMASS Facility is converted into enough electricity to power over 75,000 households. The facility also recovers and recycles approximately 50,000 tons per year of metal.

American Ref-Fuel Company of SEMASS, L.P. (Ref-Fuel), the majority owner and operator of the SEMASS Facility, is committed to being an industry leader in environmental protection by achieving superior awareness and performance. Although it remains our firm belief that the most effective approach to mercury reduction is to reduce and/or remove it from all solid waste, Ref-Fuel is committed to the development of a meaningful MSP for the SEMASS Facility. As such, the program described in this Plan to decrease the mercury entering SEMASS, and thereby increasing the mercury being recycled or eliminated from use, is entirely compatible with our corporate goals that:

- ◆ Concern for the public's health and environment will be evident through our plant design, operation of our facilities and the business decisions we make.
- ◆ Environmental compliance, meeting or exceeding applicable standards, will not be compromised for the sake of production, throughput or profits.

Our contracted customers have already demonstrated a commitment to mercury recycling

through the creation of municipal programs for the collection of mercury-bearing waste. Our data indicates that at least 26 of the communities already offer fluorescent lamp recycling to their residents, 18 offer button battery recycling, and 12 offer thermostat and thermometer recycling. In addition, there are 22 programs available to municipal buildings, and 10 available to small businesses. The strong demonstration of interest in mercury diversion, as well as the active participation in the planning process for this Plan development by our customers, provides a sound foundation for success in the implementation of this Materials Separation Plan.

GOALS OF THE PLAN:

Overall Goal:

There are several encompassing goals of this Material Separation Plan: 1) identify the products in the Municipal Solid Waste (MSW) stream that contain significant quantities of mercury and are frequently disposed of as MSW, 2) provide the instructional and outreach support necessary to educate the general public about the reasons to reduce mercury in the waste stream and how to recover and recycle mercury-containing products, 3) aid the SEMASS customer base in implementing removal and recycling programs, while supporting or supplementing existing programs, and 4) effectively manage the activities involved with the above stated goals to maximize the value of every dollar invested in the program.

Access Goals:

It is our goal to make the education, and product recycling and replacement programs available to 100% of our long-term contract customer base.

We will promote mercury recycling and reduction programs to all SEMASS long-term contracted customers, which consist primarily of municipalities. While we will promote the program to all of our long-term contract customers, we do not expect that they all will participate in the programs. It is our understanding that 10% - 15% household participation could be expected based on participation rates generally seen in Household Hazardous Waste events.

PLAN DEVELOPMENT PROCESS:

Stakeholder Input:

SEMASS has frequent meetings with representatives of its municipal contracts through the Council of SEMASS Communities (COSC). COSC representatives met three times to help develop the Plan. The municipalities were also surveyed twice and their responses used to help guide this process.

SEMASS surveyed the over 50 contracted municipalities to determine what programs are currently offered for mercury diversion and recycling. We learned that at least 26 of the communities currently offer fluorescent lamp recycling to its residents, 18 offer button battery recycling, and 12 offer thermostat and thermometer recycling. In addition, there are at least 22 programs available to municipal buildings, and 10 available to small businesses. In 14 cases,

these efforts have been supported by DEP grants of Universal Waste sheds for the collection and storage of these materials.

In addition to surveys, COSC meetings were held to discuss the Plan development and to elicit ideas concerning possible program direction. Various suggestions were discussed; some of the most representative ones include:

- ◆ Education and outreach
- ◆ Universal Waste sheds and signage for any community that doesn't already have one.
- ◆ Mercury spill kits
- ◆ Thermometer exchange program.
- ◆ Grants to subsidize cost of mercury recycling.
- ◆ Assistance to establish and expand municipal programs through a Plan Coordinator.

Discussion with COSC participants reflected the unanimous opinion that education and outreach programs would be the most valuable aspects of any program. Following the distribution of the Plan to the long-term contract customers, a meeting was held to discuss the Plan. SEMASS staff detailed the Plan, and both oral and written comments were accepted and considered in revising the draft for submittal to the Department of Environmental Protection (DEP).

TARGET SECTORS:

Although the majority of the long-term customers are municipalities, within those municipalities are residential, municipal and small businesses and commercial sectors. Many municipal customers include all MSW generated within their borders in their contract tonnage. Therefore, the target generators include, households, municipal buildings, businesses and in some cases institutions, such as hospitals. We have made these our priorities because the majority of the waste we receive from our long-term contract customers originates largely from those sources. In addition, the waste from these customers is constant while the waste received from non-contract commercial customers varies on a short-term basis. The constancy provides the opportunity for education and outreach, as well as diversion and source reduction program implementation in a pre-determined population. For this reason, we believe that the maximum reduction of mercury-containing wastes can be recovered from the long-term municipal customer base.

Although also a component of the service sectors, our secondary target is the school buildings in our contract service area. The schools are a subset of our municipal contract customers, but deserve a focused effort because of the potentially significant volumes of mercury in these buildings. We are targeting schools because they often have accumulated amounts of mercury, may have significant numbers of mercury thermometers and are large users of fluorescent lamps. We also received specific input that initial focus on the school systems provides for the education of parents by the student population. Public input also provided the statement that students would press for the implementation of programs by their parents.

SERVICE AREA:

The SEMASS service area primarily encompasses the geographic area from just south of Boston, west to Bellingham, east to Provincetown and south to Martha's Vineyard. Most of the municipalities within those geographic boundaries are contracted with SEMASS. The population ranges up to one million people and represents over 300,000 households. In addition, many of the municipal customers include most or all of their commercial waste in their contracts.

As stated above, the programs will be promoted to all long-term contract customers. We expect many of the municipalities to participate at some level. Customers will be contacted to encourage their participation and to provide assistance to support and expand existing programs.

Provided below is an estimated budget summary for those activities to be completed from January 1, 2002 through June 30, 2002.

ESTIMATED BUDGET SUMMARY

MSP Coordinator ^(a)	62,500.00
Addendum Development/Finalization	7,000.00
Local Education & Outreach ^(b)	25,000.00
IWSA Education ^(c)	37,500.00
Universal Waste Shed	20,000.00
Thermometer Exchange	30,000.00
Municipality Reimbursement	18,000.00
Commercial Thermostat Collection	37,500.00
Subtotal	237,500.00
Contingency	12,000.00
Total	\$249,500.00

Notes:

^(a) MSP coordinator costs include, but are not limited to salary, benefits, supervision, support, overhead, travel costs, expenses, etc.

^(b) The local educational component is a very important aspect of the Plan to SEMASS customers, and should be included to supplement IWSA materials as well as the amounts listed in Activities.

^(c) Dollar amount previously agreed upon with IWSA.

DESCRIPTION OF ACTIVITIES:

Activity #1: MSP Coordinator

SEMASS will identify one or more people to administer and oversee implementation of the Plan.

Goal:

Identify a Coordinator to administer and oversee the MSP. One lead person will be identified to be the primary contact person for the long-term customers. Due to the diverse qualifications needed to implement the MSP, the Coordinator may require the support of other individuals on staff at SEMASS. The Coordinator and others at SEMASS responsible for MSP implementation would be familiar with one or more of the following: the waste to energy industry; the SEMASS customer base; business practices; public speaking; recycling program implementation; and data collection and record-keeping.

Implementation tasks may include:

- ◆ Promoting participation in Plan elements among contract customers
- ◆ Coordinating the development and implementation of educational and outreach materials
- ◆ Providing assistance to customers in setting up and maintaining mercury-bearing waste diversion and source reduction programs
- ◆ Supervising cost management of the Plan
- ◆ Managing entities contracted to conduct technical assistance and outreach to businesses and municipalities
- ◆ Participating in COSC meetings on an as needed basis
- ◆ Evaluating the benefits and drawbacks of the existing Plan and providing input for the subsequent Plan as needed
- ◆ Record-keeping and preparation of reports for submittal to DEP.

Budget:

MSP coordinator salary plus benefits, etc.	\$45,000
SEMASS support, supervision, travel, business expenses, etc.	\$17,500
Total	\$ 62,500

Timeline:

An MSP Coordinator is currently identified and will be responsible for implementing the MSP.

Activity #2: IWSA Education

SEMASS will continue to work closely with the Integrated Waste Service Association (IWSA), the trade organization representing the waste to energy industry, to develop and distribute education and outreach materials.

The following summarizes activities to be completed by the IWSA for its member facilities in Massachusetts. Each activity listed below will be implemented between January through June, 2002. Estimated timelines are provided for each activity.

Similarly target populations are provided with each activity, but given the wider reach of mass media, it is probable that people outside the targeted groups will be affected.

As requested by the Department and consistent with the MSP covering the 2001 year, each activity provided herein describes the activity including its education value, the targeted population, an estimated timeline for implementation, estimated cost, and an explanation of where the activity will take place (i.e., the specific medium for the message.) Each activity described herein does not contain a discussion of the evaluation process, which instead is provided more generally because one evaluation tool (the research study) is used for all activities.

IWSA's Education Plan for 2001 produced a media campaign "Keep Mercury from Rising" including newspaper and radio advertisements, posters, and a brochure for use by the facilities. The first six months of 2002 will take advantage of the prior year's work by continuing to use targeted advertising to reach communities serviced by waste-to-energy facilities. The objectives for 2002 include the following:

- Continue to raise awareness about mercury-containing products in the home and the proper handling and disposal of these products;
- Provide information and promote local recycling events;
- Continue to build an integrated communications program that leverages opportunities for incremental, free media, and works synergistically with the efforts of individual waste-to-energy facilities.

IWSA will continue targeted advertising to reach communities serviced by the facilities, as well as implement marketing of print advertisements and public service announcements on the radio. An expansion of internet webpage capabilities is also proposed in order to provide additional tools for residents in target customers to participate in recycling of mercury-containing products. IWSA also will reach out to the media to generate media coverage of the public education campaign.

IWSA also proposes to work with the Boston Aquarium in development of an interactive mercury exhibit, already designed and produced for the Massachusetts Executive Office of Environmental Affairs, as the basis for a new traveling exhibit for museums throughout the state. The Aquarium is seeking a grant from the U.S. Environmental Protection Agency, and IWSA would provide only a portion of the money needed to complete the project funding. Museums would show the exhibit for approximately one month and then host an educational event about mercury, including a mercury thermometer exchange for non-mercury thermometers.

1. Evaluation Tool

The effectiveness of all activities will be measured by a research survey. The 2002 survey will be compared with a poll conducted in 2001 that helped define the audience and was used to develop the message. This second poll will be designed to measure positive changes in public attitudes and behaviors, as well as the receptiveness of the message.

Timeline: The survey is expected to go into the field in May, shortly after completion of publication of print and airing of radio media.

Activity: The survey questionnaire will time out at between six and eight minutes in length, and the study will consist of 400-500 completes. A series of screen questions would produce the necessary targeted universe of respondents.

Cost: \$20,000

2. Advertising

Radio and print advertising will be used. Radio is a targeted medium that provides cost-efficient mass communication and quickly builds frequency of message delivery. Radio added-value programs can provide an opportunity to interact with local customers. Print advertising can be equally effective. Residents look to community newspapers for information on local activities and events. Additionally, these publications are a cost-efficient way to reach the target.

Timeline: Three week radio campaign in late April or early May.

Activity: IWSA proposes to implement a three-week radio campaign late April or early May. The campaign would be scheduled to encourage mercury recycling activities and added-value opportunities (e.g., sponsorship of special broadcasts, contests, and free spots stations provide) will be considered. Print advertising will include a limited print effort in local publications that reach the target audience.

Cost: \$80,000

3. Public Service Advertisement (PSA) Marketing and Media Outreach

Strong interest in environmental issues among Massachusetts's residents makes the Mercury Recycling Campaign a potentially interesting story for journalists. The Mercury Campaign's advertising message and presentation in both print and radio provides a strong opportunity to gain free exposure of the ads on radio stations and in newspapers. IWSA and its consultant will market the PSA to gain free media.

Timeline: Ongoing

Activity: Conduct outreach among northeastern Massachusetts media to generate coverage of the Mercury Recycling Campaign and the positive work of WTE providers. Identify local print and radio media and promote the use of the Mercury Campaign advertisements as PSAs.

Cost: \$7,500

4. Web-based Tools

This internet-based community information resource could be readily built, easily updated and is extremely cost-efficient.

Timeline: February – March

Activity: Build upon the existing web-based capabilities for dissemination of information on local recycling events. Potentially, this might include development of a searchable database where residents could easily locate information on their locality.

Cost: \$7,500

5. Assistance with New England Aquarium Exhibit

The New England Aquarium is developing an exhibit and text to educate museum visitors to the importance of reducing and recycling mercury. The Aquarium some funding for this exhibit from the U.S. Environmental Protection Agency through a grant. IWSA will provide the additional funds to complete the project. The exhibit will be capable of travel to other aquariums and museums, and allows space for local information to be added—including announcements of the mercury education events and collection dates.

Timeline: March – April

Activity: Assist with funding in development of a traveling exhibit about mercury in the environment.

Cost: \$10,000

The total cost of all these IWSA education activities is \$125,000. SEMASS is responsible for and has budgeted **\$37,500** towards this total educational cost. SEMASS may choose not to avail itself of all of the educational tools, and may customize some based on customer need.

Activity #3: Local Education and Outreach

In addition to the campaign directed by IWSA, SEMASS will likely supplement this with additional mailings and messages designed to meet the needs of SEMASS customers. This supplemental campaign would address the local educational needs of the SEMASS customer base. These supplemental educational and outreach materials, could include mailings, flyers, posters, newspaper and other media advertisements as well as participation in group meetings.

Budget: **\$25,000**

Activity #4: Various Mercury Reduction/Recycling Programs

SEMASS will continue to promote the availability of several programs for the reduction and/or recycling of mercury-containing products to the contracted customers served by the facility.

Goal:

The goal of this activity is to provide a meaningful mercury reduction/recycling program to all of our long-term customers requesting assistance. To varying degrees, some of the communities served by SEMASS already have mercury reduction/recycling programs in place and because they do, it is important to provide assistance to all in an equitable and fair manner. If a community has a mercury reduction/recycling program in place, SEMASS may seek to supplement that program or, if possible, support further improvement, inclusive of funding of their programs.

The programs SEMASS is planning to offer during this 6-month extension period from January 2002 through June 2002 are as follows:

- ◆ Universal Waste Storage Shed, Signage, and Training: These would be promoted to the contracted communities.

The MSP Coordinator will continue to work with interested communities in securing and siting the shed, developing and implementing outreach, and training municipal personnel on properly collecting and storing mercury-containing products in accordance with the Universal Waste Rule. In order to receive a shed, municipalities would need to agree to hold several collections for residents (with the encouragement of the MSP Coordinator) to establish collection programs for mercury-containing products generated by municipal and school buildings. In turn, SEMASS would seek to reimburse municipalities for mercury recycling costs.

Timeline:

Universal Waste Shed program was offered to communities for the 2001 year and would continue through June 30, 2002.

Activities may include:

Present program options at COSC meeting, letters and phone calls

Training, if needed

Site preparation, shed delivery,

Advertisement,

Public education and outreach

May include public buildings, including schools

Budget:

Assumption: 50% of eligible communities will participate

Sheds & signage	\$ 9,000
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Training sessions	\$500
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Mercury collection & recycling	\$ 7,500
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Advertising, could include brochures or posters	<u>\$3,000</u>
Total	\$20,000

- ◆ Activity #6: Thermometer Exchange Program: Residents will be invited to take their glass mercury thermometers to a conveniently located collection spot and exchange them for a new, digital, non-mercury thermometer. SEMASS will make available digital thermometers and collection containers to the municipality and reimburse for periodic pickup and recycling of the mercury thermometers. The exchanges can be designed as ongoing programs, stand-alone events or be piggy-backed with local household hazardous waste collection days.

The MSP Coordinator will work with municipalities to identify potential collection locations, state contracts for mercury recycling, developing and implementing outreach, and evaluating the program.

Timeline:

The Thermometer Exchange Program was offered to communities for the 2001 year and would continue through June 30, 2002.

Activities may include:

Present program options at COSC meeting, with follow-up letters and phone calls,

Identify communities wanting to participate,

Order thermometers and collection containers,

Initiate distribution of thermometers and collection containers,

Advise municipalities of state contracts for mercury collection,

Initiate collection of filled containers

Advertise Thermometer Exchange program

Public Education and Outreach

Working with VNAs and Senior Citizen's homes at the town's requests

Budget:

Assumption: 15% of the households in 33% of communities participate

Digital thermometers	\$22,000
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Collection containers	\$100
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Recycling costs	\$4,400
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Advertising, could include news, brochures or posters	<u>\$3,500</u>
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Total	\$30,000
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- ◆ Reimburse Communities' Mercury Collection Costs: SEMASS will seek to reimburse communities with existing mercury diversion programs for the cost of mercury collection and recycling.

The MSP Coordinator will work with municipalities in developing and implementing outreach to enhance participation in existing programs. Initially, the 14 communities with universal waste sheds will be targeted. As time and funds allow, municipalities conducting HHW

collections could also be eligible for reimbursement. The facility may choose to offer partial reimbursement, if demand for this choice is high.

Timeline:

Reimbursement of Community Mercury Collection Costs was offered to communities for the 2001 year and would continue through June 30, 2002.

Activities may include:

Present program options at COSC meeting, with follow-up letters and phone calls,
Identify communities wanting to participate,
Contact the appropriate governmental officials within the towns,

Budget:

Mercury collection and recycling,
Request and management of documentation of municipal cost,
Administration cost, coordination through state contractors, if needed,
Contained in MSP Coordinator function.
May need some monies from the local educational component
to encourage participation

Total \$18,000

- ◆ Commercial Thermostat Collection: SEMASS believes that one of the key components of mercury education/removal is to proactively address mercury containing thermostats and other related items from the commercial/industrial sector. Instead of implementing the activity listed in the 2001 MSP for Program Expansion Assistance (also listed within the MSP as “Assistance and/or Support to Establish or Expand Programs), we plan to substitute it for this new activity. The plan is to begin implementing this new activity (commercial thermostat collection) during the fourth quarter of 2001 and it would continue throughout this 6-month extension. The \$75,000 budgeted for the Program Expansion Assistance in 2001 would instead be used to initiate this new activity in 2001 plus additional money would be budgeted in 2002 during this 6-month period to continue the implementation of this new activity.

Information gathered indicates this should have a direct positive effect on reducing mercury in the waste stream. In addition, SEMASS has learned that the commercial/industrial customers have an awareness and interest to reduce mercury in the waste stream. They also have the following concerns that SEMASS believes can be addressed:

- Having a sincere interest in removing mercury from the waste stream
- They are at risk to become a Small Quantity Generator (SQG) if they recover/recycle mercury containing products
- Need adequate storage locations and liability relief
- They are willing to provide labor, but not additional disposal cost

According to input that we have received, there is a concern that the commercial/industrial sectors are not being targeted/educated in how to properly dispose of thermostats. Since awareness is at an elevated level, capitalizing upon this momentum would be appropriate.

Timeline:

Implementation of this facet to being in the fourth quarter of 2001 and continue into 2002.

Budget:

Education	\$ 4,000
Advertising, newspapers ads, recognition	\$ 5,000
Mercury collection & recycling	<u>\$28,500</u>
Total	\$37,500

MEASUREMENT AND EVALUATION:

The MSP Coordinator will continue to maintain a reporting system with each of its customers that have a mercury collection or diversion program supported by SEMASS. The system is expected to include the amount of mercury collected and recycled and participation rates in the universal waste shed and thermometer exchange programs. Activities conducted by the outreach contractors would, if used, also be summarized and resulting mercury diversion documented.

CONCLUSION:

We believe that we have designed a comprehensive program for the recycling and source reduction of mercury in our service area. It has been developed with the flexibility needed to implement the MSP

As DEP noted in its MSP Guidance, municipal waste combustors such as SEMASS “do not have extensive experience in changing people’s behavior patterns or encouraging participation in material separation programs.”, and therefore may not be successful in increasing participation in the identified Activities. It is therefore possible that one or more of the assumptions or expectations listed in this Plan may not reflect actual circumstances or actual costs. As the Plan is implemented, SEMASS may need to adjust aspects of the Plan, including costs to reflect reality. As the Guidance notes, it may be necessary to “extend the implementation timeline for” the Plan. The actual experience of implementing this Plan will be an evolving process and will likely require adjustments, e.g., tasks, activities, costs, and should SEMASS consider them to be significant, the Department will be notified. We view the flexibility of making adjustments to the Plan a necessary part of its implementation and do not view them as a non-complying matter.